REMARKS

The foregoing Amendment corrects translational errors and conforms the claims to United States practice. No new matter is added.

Respectfully submitted,

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PATENT
Attorney Docket No. 401585/BRAUN

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ULRICH JOOS

Application No. Unassigned

Filed: March 14, 2002

For: SCREW-TYPE INTRAOSSEOUS DENTAL IMPLANT

Art Unit: Unassigned

Examiner: Unassigned

AMENDMENTS TO CLAIMS MADE VIA PRELIMINARY AMENDMENT

Amendments to existing claims:

1. (Amended) A dental implant ~~with~~ comprising:
a) a bottommost implant tip ~~(1)~~ located at ~~the~~ an apex;
b) a root part ~~(2)~~ which extends to the implant tip (1), is intended to be fitted in a jawbone, and has a parabolic outer contour ~~(A)~~ with the implant tip ~~(1)~~ as vertex;
c) an implant neck adjoining the root part ~~(2), an implant neck (3)~~ which extends in the coronal direction and is intended to lie inside the gingiva; and
d) an outer thread ~~(4)~~ provided on the root part ~~(2)~~, wherein
~~characterized in that~~
e) the root part ~~(2)~~ has the parabolic outer contour ~~(A)~~ along its entire length (l_{max}) and as far as a theoretical ridge line ~~(5)~~ at which it adjoins the implant neck ~~(3)~~.

2. (Amended) The dental implant as claimed in claim 1, ~~characterized in that~~ wherein
a) the outer thread provided on the root part ~~(2)~~ has an outer contour extending parallel to the parabolic outer contour ~~(A)~~ of the root part ~~(2)~~, and
b) ends at a distance of 1 mm to 4 mm from the ridge line ~~(5)~~.

3. (Amended) The dental implant as claimed in claim 1 ~~or 2, characterized in that~~ wherein
a) the root part ~~(2)~~ at the ridge line ~~(5)~~ has ~~the~~ a maximum radius (r_{max}) extending in the radial x-direction;

b) the parabolic outer contour~~(A)~~, placed in a cartesian system of x-y coordinates, with the implant tip~~(1)~~ positioned at the origin, follows the equation $l_y = K \cdot 4r_x^2$, where

c) l_y represents the respective ordinate value and r_x represents the associated abscissa value; and

d) the constant (K) results from the equation:
$K = l_{max} : 4r_{max}^2$.

4. (Amended) The dental implant as claimed in claim 3,~~characterized in that~~ wherein the maximum radius (r_{max}) is between 1 mm and 3 mm~~, preferably lying in the range of from 1.5 mm to 2 mm~~.

5. (Amended) The dental implant as claimed in~~one of claims~~ claim 1~~through 4~~, ~~characterized in that~~ wherein

a) the outer thread~~(4)~~ is self-cutting;

b) the length (l_{max}) of the root part~~(2)~~ correlates with~~the~~ a pitch (S) of the outer thread~~(4)~~;

c) the outer thread~~(4)~~ ends at a distance, in the range of from 1 mm to 4 mm, from the ridge line~~(5)~~; with

d) the distance being greater as the length (l_{max}) of the root part~~(2)~~ increases.

6. (Amended) The dental implant as claimed in claim 5,~~characterized in that~~ wherein the length (l_{max}) of the root part~~(2)~~ and the pitch (S) of the outer thread~~(4)~~, given a maximum radius (r_{max}) = 2 mm, correlate with one another as follows:

Length (l_{max})of root part (2) [mm]	Pitch (S) [mm]
6	0.65
8	1
10	1
14	1
16	1

7. (Amended) The dental implant as claimed in~~one of claims~~ claim 1~~through 6~~, ~~characterized in that~~ wherein the outer thread~~(4) with its~~ includes thread teeth~~(40)~~ ~~has the following values:~~,

a) the thread teeth at the root part~~(2), and extending~~ extend in the y- direction,~~the thread teeth (40)~~ and have a height (g_h)~~in the region~~ of about 0.3 mm; and

b) the thread teeth in the x-direction, ~~the thread teeth (40)~~ have a length (g_l) in the range of from 0.25 mm to 0.5 mm.

8. (Amended) The dental implant as claimed in claim 7, ~~characterized in that~~ wherein

a) the maximum radius is 2 mm;

~~a~~b) the length (g_l) of the thread teeth ~~(40) is smaller~~ decreases as the length (l_{max}) of the root part (2) increases; and

~~b~~c) the outer thread ~~(4)~~ with its thread teeth ~~(40)~~ has, ~~given a maximum radius (r_{max}) = 2 mm,~~ the following values:

Length (l_{max}) of root part [mm]	Height (g_h) of thread teeth [mm]	Length (g_l) of thread teeth [mm]
6	0.3	0.4
8	0.3	0.4
10	0.3	0.3
14	0.3	0.25
16	0.3	0.25

9. (Amended) The dental implant as claimed in ~~one of claims~~ claim 1 ~~through 8~~, ~~characterized in that~~ wherein

a) the implant is made of biocompatible material ~~having suitable stability properties, for example titanium, titanium-based alloys, other metals, their alloys, ceramic, glass ceramic, ceramic-like material or plastic~~; and

b) the root part ~~(2)~~ has a rough surface which is plasma-coated or ceramic-coated or is treated chemically, electrochemically, mechanically or by laser.

10. (Amended) The dental implant as claimed in ~~one of claims~~ claim 1, ~~through 9 characterized in that~~ wherein the implant neck ~~(3)~~

a) is made of titanium, a titanium-based alloy or another biocompatible metal or its alloy and is polished; or

b) is coated with ceramic, glass ceramic, ceramic-like material, hydroxyapatite, plastic or metal.

11. (Amended) The dental implant as claimed in ~~one of claims~~ claim 1 ~~through 10~~, ~~characterized in that~~ wherein

a) measured in the y-direction, the implant neck ~~(3)~~ has a height (h) in the range of from 1 mm to 3 mm; and
b) the implant neck ~~(3)~~ is cylindrical or is widened or narrowed in a trumpet shape or conically in the coronal direction.

Please add the following claims:

12. (New) The dental implant as claimed in claim 4, wherein the maximum radius is from about 1.5 mm to about 2 mm.

13. (New) The dental implant as claimed in claim 9, wherein the biocompatible material comprises titanium-based alloys, metals, metal alloys, ceramic, glass ceramic, ceramic-like material or plastic.